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Claims:

1. Dispensing device for dispensing or discharging a liquid or viscous substance (2), preferably foodstuff, wherein at least one pump means (4) is provided to perform pump motions for sucking said substance (2) into the dispensing device (1) and dispense or discharge it therefrom,

c h a r a c t e r i z e d i n

that the pump means (4) is provided to divide inner parts of the dispensing device (1) into at least one suction chamber (30) and at least one dispensing or discharge chamber (31) which are interconnected through at least one transfer chamber (32),

that the pump means (4), during a first pump motion in one direction (A), is provided to suck substance (2) into the suction chamber (30) and simultaneously dispense or discharge substance (2) from the discharge chamber (31), and

that the pump means (4), during a second pump motion in the opposite direction (D) relative to the first pump motion, is provided to feed substance (2) from the suction chamber (30) and through the transfer chamber (32) into the discharge chamber (31).

2. Dispensing device according to claim 1, c h a r a c t e r i z e d i n

that at least one first non-return valve (20) is provided to open a substance inlet opening (23) through which substance (2) can be sucked into the suction chamber (30), but close said inlet opening (23) when substance (2) pass through the transfer chamber (32) into the discharge chamber (31), and

that at least one second non-return valve (24) is provided to open at least one substance transfer opening (11) through which substance (2) can be sucked into the discharge chamber (31), but close said transfer opening (11) when substance (2) is discharged from the discharge chamber (31).

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3. Dispensing device according to claim 1 or 2,
c h a r a c t e r i z e d i n that the pump means (4)
comprises an elastic dome shaped member (16) which is
provided to be brought to perform a pump motion in one
5 direction (A) by being pressed or pushed inwards, and
which, when the pressure ceases, performs a pump motion
in an opposite direction (D) while said member (16) auto-
matically returns to its original dome shape.

4. Dispensing device according to claim 3, c h a -
10 r a c t e r i z e d i n that the dome shaped member
(16) has an elastic tongue which defines a valve body (21)
for the first non-return valve (20) and at least one other
elastic tongue which defines a valve body (25) for the
second non-return valve (24).

15 5. Dispensing device according to claim 4, c h a -
r a c t e r i z e d i n that the dome shaped member
(16) and the valve bodies (21, 25) of the first and se-
cond non-return valves (20, 24) are made in one piece of
elastic material.

20 6. Dispensing device according to claim 4 or 5,
c h a r a c t e r i z e d i n
that the dome shaped member (16) is, at peripheral
parts thereof, provided with a flange (17) which is ra-
dially directed relative to said dome shaped member,
25 that the valve body (21) of the first non-return
valve (20) is located at peripheral parts of said flange
(17) and is directed axially therefrom relative to the
dome shaped member (16) such that said valve body (21)
can cooperate with a valve seat (22) at a substance in-
30 let opening (23) for letting substance (2) into the suc-
tion chamber (30),

that the valve body (25) of the second non-return
valve (24) is located at the same peripheral parts of
the dome shaped member (16) as the flange (17), and

35 that the valve body (25) of the second non-return
valve (24) is axially directed relative to the dome shaped
member (16) such that it will be situated within and can

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cooperate with at least one valve seat (26) at at least one substance transfer opening (11) and defined by an upwardly directed wall (10) of the dispensing device (1).

7. Dispensing device according to claim 6, c h a -
5 r a c t e r i z e d i n

that the flange (17) of the dome shaped member (16) extends in between a lower and an upper member (7, 8) of the discharge housing (3),

that parts of the flange (17) situated in the trans-
10 fer chamber (32) has at least one hole (17a) permitting substance (2) to flow through said transfer chamber (32) from the suction chamber (30) into the discharge chamber (31), and

that the dome shaped member (16) can be pressed down-
15 wards from an upper position in an upper member (8) of the dispensing device (1) to a lower position in a lower member (7) of said dispensing device (1) for sucking substance (2) into the suction chamber (30) and discharge or outfeed of substance (2) from the discharge chamber (31).

20 8. Dispensing device according to any preceding claim, c h a r a c t e r i z e d i n

that the pump means (4) is provided in a dispensing or discharge housing (3) which defines the suction chamber (30), the transfer chamber (32) and the discharge
25 chamber (31) and which comprises a lower and an upper member (7, 8),

that the lower and upper members (7, 8) can be interconnected and disconnected,

that parts of a flange (17) of the pump means (4)
30 are situated between the lower and upper members (7, 8) when these members are interconnected, such that said parts of the flange (17) define sealing means between the lower and upper members (7, 8) when said members are interconnected, and

35 that the pump means (4) can be released from the discharge housing (3) by disconnection of the lower and upper members (7, 8).

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9. Dispensing device according to claim 8, c h a -
r a c t e r i z e d i n that the lower and upper mem-
bers (7, 8) include portions which define a bayonet mount
or coupling (44) permitting interconnection and disconnec-
5 tion of said portions, preferably by rotating one of said
members (7, 8) relative to the other member (7, 8).

10. Dispensing device according to any preceding
claim, c h a r a c t e r i z e d i n that the dispen-
sing device (1) is designed as a hand pump which can be
10 held in one hand and operated therewith or with two hands
for discharge or feedout of substance (2).

11. Dispensing device according to claim 10, c h a -
r a c t e r i z e d i n that the dispensing device (1)
comprises a handle (34) with a first and a second handle
15 member (35, 36) or similar such that said device (1) can
be held in one hand and the pump means (4) operated by
effecting the second handle member (36) with one or both
hands for dispensing or discharging substance (2) from
the dispensing device (1).

20 12. Dispensing device according to claim 11, c h a -
r a c t e r i z e d i n

that the second handle member (36) is pivotally
mounted and designed as a lever with a first and a second
shank (39, 40), and

25 that the first shank (39) can be brought to perform
pump motions with the hand, said pump motions being trans-
ferred to the pump means (4) through the second shank (40).

13. Dispensing device according to claim 12, c h a -
r a c t e r i z e d i n that the second shank (40) is
30 designed such that it can be operated with the other hand
for supporting the pump motions being brought to the first
shank (39) by one hand.

14. Dispensing device according to any preceding
claim, c h a r a c t e r i z e d i n that the dispen-
35 sing device (1) comprises a piston means (13) which is
provided to bring the pump means (4) to perform pump
motions, said piston means (13) being displaceably moun-

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ted in a sleeve (12) which is located on a dispensing or discharge housing (3) forming part of the dispensing device (1) and through which the piston means (13) extends into said housing (3).

5 15. Dispensing device according to any preceding claim, c h a r a c t e r i z e d i n that at least one sealing means (45) is provided to bring about a sealing between the piston means (13) and the sleeve (12).

10 16. Dispensing device according to any preceding claim, c h a r a c t e r i z e d i n that at least one dispensing or discharge pipe (9) or similar is provided for dispensing or discharging substance (2),

15 that a third non-return valve (27) is located on the discharge pipe (9),

 that the third non-return valve (27) is a hose member (28) which is threaded into or onto said discharge pipe (9) and which has a closed outer end (29),

20 that the outer end (29) of the hose member (28) can be opened when substance (2) is pressing against said outer end, and

 that the outer end (29) of the hose member (28) automatically returns to closed shape when the pressure of substance (2) against it ceases.

25 17. Dispensing device according to any preceding claim, c h a r a c t e r i z e d i n that the amount of substance (2) which is dispensed or discharged by means of the pump means (4) can be altered by replacing a piston means (13) which is provided to effect the pump means (4)

30 for discharge of the substance (2), with another piston means (13) having another length and/or diameter.

 18. Dispensing device according to any preceding claim, c h a r a c t e r i z e d i n that the dispensing device (1) comprises or consists of the following

35 four members which for separate cleaning are disconnectable from each other and then reconnectable, namely

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a lower and an upper member (7, 8), forming part of a dispensing or discharge housing (3) and disconnectable from each other,

5 a pump means (4) with valve bodies (21, 25) for first and second non-return valves (20, 24), said pump means (4) being located between said lower and upper members (7, 8) and disconnectable therefrom, and

a piston means (13) for effecting the pump means (4), said piston means (13) being releasably mounted on said
10 upper member (8)..

19. Dispensing device according to any preceding claim, c h a r a c t e r i z e d i n

that it comprises a dispensing or discharge housing (3) having a lower and an upper member (7, 8) which are
15 interconnectable,

that the lower member (7) is rotatable relative to the upper member (8) about an imaginary geometric centre line (CL),

that the lower member (7) has a dispensing or discharge pipe (9) or similar, through which substance (2) can be dispensed or discharged from the discharge housing (3),
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that the discharge pipe (9) is eccentrically located relative to the centre line (CL), and

25 that the discharge pipe (9) can be set in different rotary positions relative to the centre line (CL) by rotating the lower member (7) relative to the upper member (8).

20. Dispensing device according to any preceding claim, c h a r a c t e r i z e d i n that the dispensing device (1) is connected to a container (5) with substance (2) through a hose (6) or similar and that the pump means (4) is provided to suck substance (2) from the container (5) through the hose (6) into the suction chamber (30).
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35 21. Dispensing device according to claim 20, c h a r a c t e r i z e d i n that the container (5) is a flexible container, e.g. a plastic bag, which is designed

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ned to collapse when substance (2) is sucked out of said container (5).

22. Dispensing device according to any preceding claim, c h a r a c t e r i z e d i n that said substance (2) is mustard, ketchup, mayonnaise, dressing or
5 cooking oil which shall be dispensed or discharged onto one or more locations, e.g. one or more dishes.